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The power to do more

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The BYOT Buzz 24

COVER STORY Your users want the freedom to bring their own technology. Here's what you should know before you make a move.

BY KIM S. NASH



"We need to get out of the equipment business," says **Doug Caddell**, CIO of Foley and Lardner. The law firm's BYOT program began in February.



FROM THE
EDITOR IN CHIEF

start

CHATTER

Tough Audience

"Technology is easy. People are tough."

CIOs have been saying that for years, whenever the conversation turned to managing change or adopting new technologies. In the new math of IT leadership, one recalcitrant user base equals one failed project. If you build it and they don't come, it's game over.

But what happens when the game changes?

In this issue, you'll find three stories that delve into the people issues behind some of today's biggest potential game-changers: bring-your-own-technology (BYOT) policies, unified communications tools, and social media and collaboration software.

Our cover story ("The BYOT Buzz," Page 24) serves up a nine-point guide for what to expect when the inmates take over the asylum. There are detailed, practical tips on handling a number of issues, such as setting security policies and working with accounting departments to administer BYOT funds.

BYOT is a "great acknowledgement of reality," says CIO Leslie Jones of Motorola Solutions. But she cautions: "You're doing it because you want to deliver choice and flexibility. Not to save you money."

If you're steering clear of BYOT for now, you're still in the majority. In a survey we just conducted among 476 IT leaders, 69 percent still weren't allowing employees to buy their own gear. But the lessons learned by those who are trying BYOT reveal a lot about human nature and the improving relationship between IT and the rest of the business.

We explore the opposite effect (of everyone resisting IT change) in "Shaking Their Habits" (Page 13), a story about the effort required to get employees to form new habits when they start working with unified communications tools.

"People move at their own pace around [this] technology," notes Barry Libenson, CIO of Land O'Lakes, where the IT team launched an impressive internal marketing effort that included designated user coaches walking around in orange vests.

Our final tale about people and change can be found in "Yammer On" (Page 18), a story about a social networking revolution of sorts at Nationwide Insurance. The company discovered that employees can't be pushed into social tools they don't choose for themselves.

Technology is easy. People are tough.

Maryfran Johnson, Editor in Chief, *CIO Magazine & Events*
mfjohnson@cio.com

Quick Fixes for IT

Hiring talented IT staff helps create a solid IT department, but it's not a **cure-all**. Rapid revenue growth, **poor vendor relationships** or inexperienced management can cause **IT ineffectiveness**. Assistant Managing Editor Shane O'Neill gathers five tips to help IT **work better**.
www.cio.com/article/688974

Bold Love for BlackBerry

Senior Online Writer Al Sacco tested the new **BlackBerry Bold 9930** and likes it, noting that the combination of **touch screen, keyboard and trackpad** is a **no-brainer** for business users. Sacco says the **1.2GHz processor** and the browser are both much more powerful than in previous BlackBerrys. But the new smartphone is **not perfect**. For example, Sacco says the battery **struggled** to make it through a full day of **moderate use**.
www.cio.com/article/688746

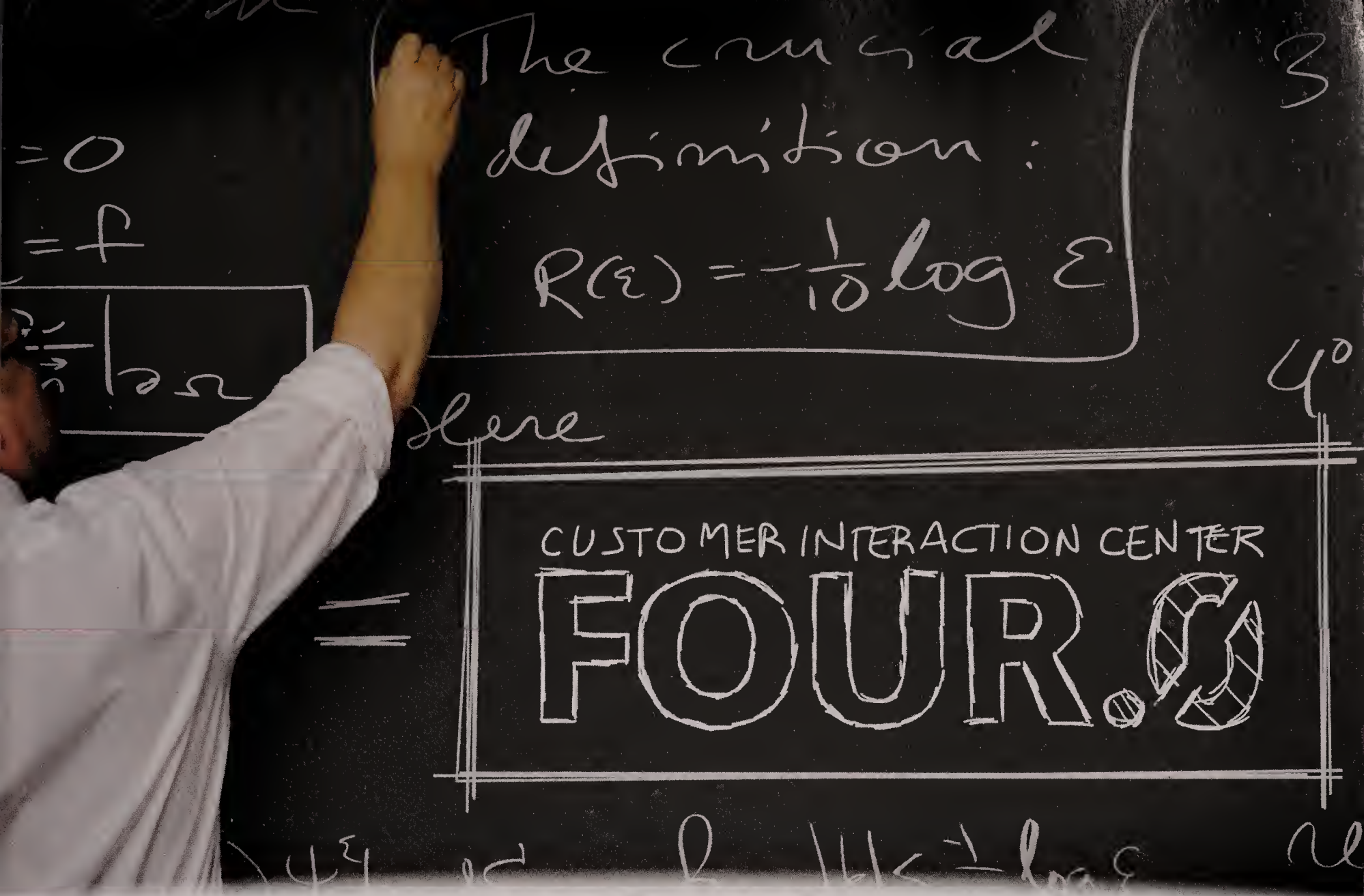
IT Resume Revamp

Wondering how to address **gaps** in your resume? Senior Online Editor Meridith Levinson does a **full resume makeover** for an executive who left IT for a few years to **teach**. Instead of hiding this, Levinson updated his resume to address that fact up front, describing his time off and listing the **skills** he acquired from the experience.
www.cio.com/article/688773

Correction

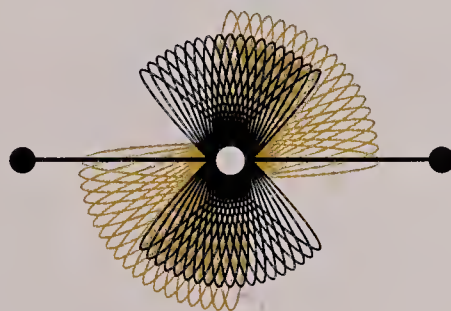
In our Sept. 1 issue, the article "Unearthing Innovative Ideas" misstated several figures about InnoCentive. The company has about 250,000 problem solvers in nearly 200 countries, and the maximum award for a solution is \$1 million. We regret the error.

Compiled by Editorial Assistant Lauren Brousell. Have a comment about a story in this issue? Go to www.cio.com/issue/20111001 or write to letters@cio.com.



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FROM THE **CEO**

CFOs vs. CIOs?

Hang on a minute. Last I checked, most CIOs had authority over the IT spending in their organizations, and a majority of you (68 percent) were members of the C-suite's executive committee. That's data drawn from a survey of 729 IT leaders one year ago in our annual State of the CIO survey.

Now along come our friends from Gartner, claiming—in a recent joint survey with the Financial Executives Research Foundation and Financial Executives International's Committee of Finance and IT—that a piddling 5 percent of CIOs have the power to authorize IT investments while 26 percent of CFOs do. That's data drawn from a survey of 344 respondents “qualified in providing a perspective on technology deployment within the enterprise.” What does that even mean?

Gartner also found 42 percent of IT organizations report directly to their company's CFO, with that number climbing as high as 60 percent for mid-size businesses (with revenue between \$50 million and \$250 million).

Well, color me skeptical. In *CIO's* 2011 State of the CIO research, we found 44 percent of CIOs report to the CEO and only 20 percent report to the head of finance. That is one huge discrepancy, folks. We also reported that in the purchase of IT products and services, CIOs are influencing every stage of the purchase process—far outweighing the clout of the CFO. At right, here's what some of our data showed:

I have no doubt that business-focused

collaboration between the CIO, CFO and CEO has never been more important to the health of enterprises. Everybody gets that. But claiming that the heads of finance are leading the IT investment process (and making brand and architecture decisions) doesn't make sense to me. It even sounds alarming. Do we want CIOs handling Securities and Exchange Commission filing decisions? By the same token, why would anyone expect CFOs to make the most enlightened IT decisions?

I'd love to hear your take on this, so please drop me a line with your thoughts about the true scope of the CFO's influence.

	CIO	CFO	CEO
Authorize and Approve	57%	47%	45%
Determine Business Need	47%	28%	45%
Determine Requirements	34%	5%	8%
Recommend	39%	8%	11%

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Consumer Demand Spurs Bring-Your-Own-Tech Policy

INDIA N. Jayantha Prabhu, CTO of global steel producer Essar Group, set up a bring-your-own-technology policy to address employees clamoring to use their own devices for work and C-suite execs needing anytime, anywhere data access. To start, he drafted a list of the most common devices used, then prioritized which applications needed support. He got help from vendors, who were eager to develop mobile and tablet-friendly versions of their products and check their enterprise compatibility. "These organizations have built the kind of infrastructure, R&D, support and skill sets that help during the nascent stage of testing," says Prabhu. Security is addressed through desktop virtualization, mobile data management, data-loss prevention and remote wipe tools. Users at Essar are required to sign a contract before they can use their devices. "CIOs should make clear that the complete management of their devices rests with the users," he says. (For more on this topic, see "The BYOT Buzz," Page 24.) www.cio.in

Collaboration Tools Heard Round the World

AUSTRALIA When you're a CIO for a global publishing and education solutions company with 36,000 employees, communication is everything. Jenny Beresford understands this. As CIO for Pearson Australia, she recognizes the importance of a collaborative environment for bringing new organizations and employees into the fold.

The Pearson Group is arguably known best for its individual brands, which include Penguin and *The Financial Times*. The organization has spent the better part of a decade in acquisition mode, making collaboration across regions and brands vital. "I work with a global CIO who is visionary and progressive," Beresford says. "We're bringing global networks and collaborative spaces into play that can help us more quickly integrate people in companies we acquire, as well as their systems."

Pearson uses an internal collaboration environment called Neo, based on Jive. Adoption is high, allowing knowledge sharing, peer-to-peer and peer-to-group communications across the company. Its Microsoft environment has been upgraded, with plans to connect its Jive, SharePoint and voice and video conferencing platforms. Proof-of-concept trials are under way in the U.K., the United States and Australia. www.cio.com.au

Location Information Improves Tools at Electric Company

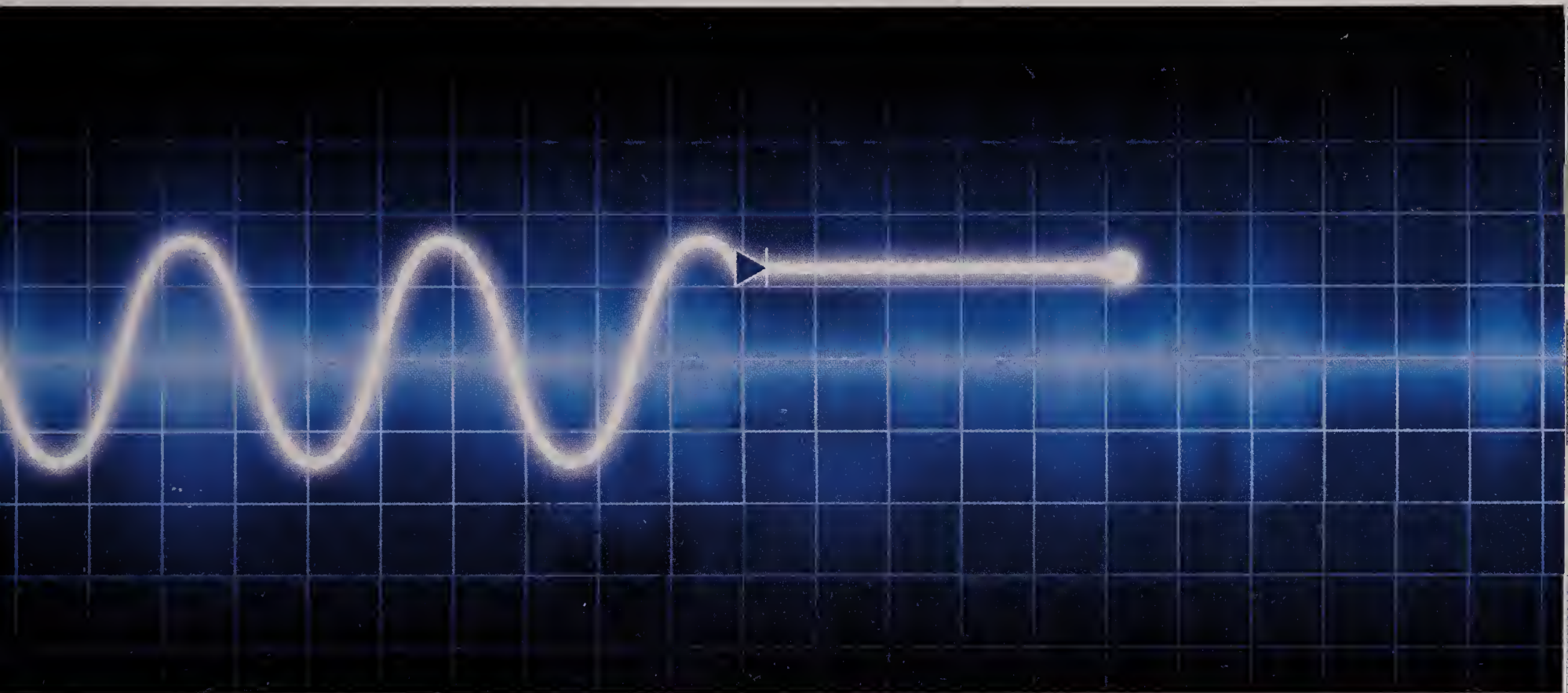
BULGARIA A two-year project focused on implementing a geographic information system (GIS) at CEZ Bulgaria, one of three electricity companies in the country, concludes this year. The system organizes existing data and optimizes business processes. "It is extremely difficult for us to identify any of the equipment pieces which had to be exploited, expanded, fixed, or serviced when their locations and technical parameters are not defined", says Ivan Gyurovski, deputy executive director for strategy development at CEZ.

The GIS facilitates the coordination of the CEZ teams, reduces reaction time when incidents occur, and shortens the time it takes to deliver technical information about energy equipment to the business.

Part of the solution is the mobile module, Arc-GIS Mobile, which is equipped with applications for portable devices. It allows CEZ Bulgaria to model and share the electricity network's documentation with workers in the field. CIO.bg

-Compiled by IDG News Service from *CIO* magazine affiliates worldwide

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"We proved that we can launch a product that redefines the market and places us far ahead of the competition."

Rick King
CTO, Thomson Reuters
Professional Division

Hear from Rick:



Cloud computing has evolved from panel discussion topic to widespread adoption in a few short years. As with any new technology, best practices, challenges, and success stories have followed close behind adoption.

And as with any technology, the measure of the success of cloud computing is this: How does it move your business forward?

CIOs today are increasingly held accountable for business outcomes, and that includes responsibility for technologies like cloud computing. But just building a cloud isn't enough to stay competitive. Leading CIOs have embraced the cloud to tap its full potential, moving beyond their role as cloud builders or implementers to become rainmakers who leverage the cloud and their IT infrastructure to transform the way their organizations do business.

Today's IT Leader as Rainmaker

This transition fits perfectly with the movement of CIOs from their traditional role as functional IT operations manager into business transformation expert. IT leaders like Rick King of Thomson Reuters typify this new profile.

As CTO for the Professional Division of Thomson Reuters, the leading legal, tax, regulatory, and IP/scientific information and software provider for global professionals, King and his IT and business colleagues built a private cloud implementation on a shared storage infrastructure that handles 50 times as much data, twice as fast as before. He was also able to save \$65 million by eliminating the need for a new data center (see sidebar).

Beyond Virtualization: Keys to Cloud Success

Leading IT organizations understand that it's time to stop debating the merits of the cloud and start discussing how to put the cloud to work—because the cloud is not some future state, but the here and now. A recent NetApp IDG Research survey¹ showed that 86% of organizations have at least one cloud project under way, and nearly 75% have two or more.

That same survey highlighted a key cloud success factor: an enterprisewide cloud strategy. This holistic, overarching approach reduces costs, serves business goals, and improves business/IT alignment by leveraging expertise from the IT and business sides of the organization.

¹ NetApp IDG Research Services LinkedIn Survey, June 2011, www.netapp.com/cloud

² Private Clouds: Storage Architectures Are Key to Maximizing Efficiencies, February 2011, www.netapp.com/forrester2011cloud

What you see are benefits extending beyond IT and fueling true business transformation. Here are some of the potential benefits of an optimized private cloud:

- **Optimized cost structures.** The cloud enables vast economies of scale, better utilization, operational efficiencies, and lower capital investments.
- **Enhanced IT performance.** The cloud enables IT to respond at the speed of business, while shifting the workload focus from maintenance to innovation through automation and self-service.
- **Heightened business agility.** The cloud gives companies the ability to dynamically scale operations, accelerate business innovation, and decrease time to market, all while maintaining enterprise-level security and business continuity.

IT leaders who are able to envision and accomplish a cloud deployment that delivers the full range of enterprise benefits are not just competent cloud builders—they are inspired (and inspiring) rainmakers.

Start with Storage

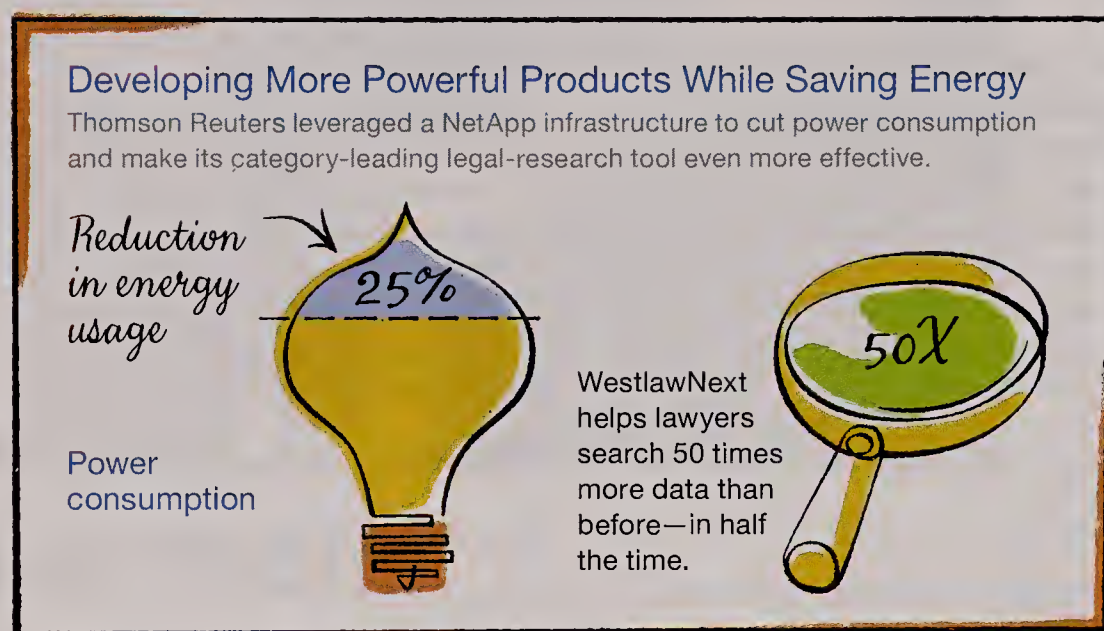
Choosing the right storage platform for shared infrastructure is one of the most critical and strategic decisions that IT leaders make. Yet according to a recent Forrester study², many organizations focus on the server parts of their cloud implementation instead of optimizing from the ground up. A successful cloud is built atop a strong foundation—a shared infrastructure that extends the notions of standardization, automation, and self-service beyond the server. It's with a deep understanding of the critical nature of a shared storage

foundation that IT leaders can capitalize on the cloud's economic and business advantages.

Get Started Now

The advantages of cloud computing are too compelling to ignore, with innovation, efficiency, business agility, productivity, and cost control leading the pack.

IT leaders must seize this unique moment today to secure a leading role in the cloud



revolution. IT leaders who leverage a forward-looking, enterprisewide strategy for cloud adoption, and then elevate their vision for the cloud from builder to rainmaker, will be the winners.

Here are three simple touchstones for cloud success:

- Start with a secure storage foundation.
- Learn from others who have done it before.
- Aim high. Become a rainmaker, not just a cloud builder. ■

For more information on building a cloud infrastructure tuned for success, check out NetApp.com/BuiltOn/Cloud.



EXECUTIVE VIEWPOINT

Unified Communications: The Future Has Arrived

Hosted communication services deliver business value and reduce management headaches

Why does unified communications matter today for businesses?

Two things have conspired to make unified communications extremely relevant today. The user community needs better tools to communicate, and there is an expectation of the new workforce generation that has grown up with new technology.

“Find your power users and make them prophets in the desert. They will create a buzz and generate enthusiasm within the organization.”

Market research shows that the demand for hosted VoIP services continues to increase. What is driving this growth pattern?

There's a huge difference between a decade ago and the last 36 months. It's a perfect coming-together of user demand and technology. Innovative solutions are now available from many vendors, and the release of the SIPconnect 1.1 recommendation is driving this growth.

The way in which hosted VoIP services are deployed will also drive growth. The key: Don't force the issue or expect to change the enterprise overnight. The early adopter community—the young and the technically savvy—will help drive this demand throughout the enterprise.

Can you share best-practices advice for customers looking to implement

a UC services strategy?

Find your power users and make them prophets in the desert. They will create a buzz and generate enthusiasm within the organization. Simultaneously structure a deployment evaluation with a committee of representative users, including the technical support staff. Make sure that this traditional evalu-

ation incorporates negative employee feedback. Everything matters—both deployment and training. Begin with a bite-size deployment and roll out the most prevalent features rather than risk a technology backlash.

What differentiates Broadvox's UC solutions, and how do they provide business value for today's customer needs?

Broadvox offers the most recognized product line in the UC community and has been recognized for our forward-looking services and continued UC innovation in many areas. Frost & Sullivan awarded us the 2011 North American Award for Product Differentiation Excellence of the Year for our C4 IP service offering, and we recently introduced C4UC, a new era in Unified Communications powered by Cisco's Hosted Collaboration Solution.



Frank M. Grillo

EXECUTIVE VICE PRESIDENT, APPLICATIONS, IMPLEMENTATION AND SUPPORT.

Grillo is a visionary technology executive known for his ability to identify growth opportunities and produce bottom-line results. He has been a member of the

Broadvox management team since the merger of Broadvox and Cypress Communications in January 2011 after working in a similar role at Cypress Communications.

Please share your vision for unified communications over the next two to three years.

Unified communications has become very well integrated, close to a seamless communication experience. In the near future, we can expect more video, which will become more prevalent and embedded, and wireless-enabled devices, as well as greater integration across many different environments. Instead of building in-house technical enterprises, organizations will increasingly look to cloud solutions.

Finally, dynamic mobility lies ahead. The increased use of smart phones is driving the need for greater device integration with the desktop. Within three years, approximately 10 percent of the workforce will use smart phones as their exclusive communications device; everything will need to be ported onto a single mobile device. As users move physically and logically, UC will be embedded everywhere.

FOR MORE INFORMATION Download the white paper “Unified Communications as a Service” at www.cio.com/whitepapers/broadvox.





As Land O'Lakes CIO **Barry Libenson** rolls out a unified communications system to 3,000 users, he's promoting the new capabilities on flat-screen monitors placed around company facilities.

13

Shaking Their Habits

Encouraging users to embrace unified communication tools calls for a personal touch **BY LAUREN BROUSELL**

Disrupting the way employees interact is often risky. And deploying unified communications (UC) tools can be riskier than other enterprise software rollouts because it affects employees' ingrained habits. "People move at their own pace around [this] technology," observes Barry Libenson, CIO of Land O'Lakes. "It's not like a new ERP system."

Installing Cisco's UC suite during the next few months is critical to the \$13 billion butter maker's efforts to expand globally. One feature lets employees program their phones to forward calls to other locations, or to their iPhones, based on where their calendars say they will be. Another lets people launch a videoconference by clicking on a colleague's name in the company directory.

But UC tools create new expectations for how people will work together. Art Schoeller, an analyst at Forrester Research, says that makes it easy for UC deployments to fail because employees may not value the tools as highly as management does. "Users can ignore you and you lose the benefits," he says. "You have to establish and [invest] in a change-management program." ▶▶

►► **Communications** Continued from Page 13

Selling Change

To sell the new capabilities, Libenson took a tip from Cisco and set up more than a dozen flat-screen monitors that display weekly messages informing the company's 3,000 users about upcoming changes. He followed up the messages with paper mail and email, and offered demos for groups of 10. Then during each deployment (the tools were rolled out to Land O'Lakes' two biggest facilities last month and are scheduled for use in its main dairy plant in February) Libenson designated IT staffers to wear orange vests and walk around answering questions or helping coworkers individually.

Libenson says he'll judge how well the rollout succeeds by how employees use the new tools. "It's a failure if people still only use the [technology] traditionally."

Christian Anschuetz, CIO at Underwriters Laboratories (UL), says he made it clear to employees that they wouldn't have a choice about using UC tools. But part of his implementation plan includes dedicating a team to communicating with workers and managing change.

UL is using Microsoft Office 365 to unify phone, email and fax on desktop and mobile devices, and is shifting more than half of its voice network to voice over IP (VoIP). Before rolling out the technology, Anschuetz offered plenty of avenues for UL's 7,000 employees to learn about it in their own way, including through blog posts, newsletters, webinars and videos.

At CUNA Mutual, an insurance and financial services provider, CIO Rick Roy designated "change agents" in each business unit to educate their peers about a recent rollout of VoIP phones and Cisco telepresence tools to 4,000 users.

"The technology part of this project is complicated but proven," Roy says. The key to making it work is having the change agents explain to users how their business units will benefit. "The change agents [are] the voice of the audience they [are] representing."

Contact Editorial Assistant Lauren Brousell at lbrousell@cio.com. Follow her on Twitter: twitter.com/lbrousell.

"It's a failure if people still only use the [technology] traditionally."

—Barry Libenson,
CIO, Land O'Lakes

crunch

Online Ed Gets the College Try

Not many schools enroll most undergraduates in online courses, but that will change in the next decade

Colleges where more than half of students take classes online

Type of school	Now	In 10 Years
4-year private	11%	37%
4-year public	14%	45%
2-year private or public	16%	65%
For-profit	20%	54%

SOURCE: PEW RESEARCH CENTER

Who's a Tech Entrepreneur?

If you want to spot the next Steve Jobs, start with people who studied entrepreneurship at Stanford University, are in their thirties, have worked at someplace like Yahoo, and currently reside in San Francisco.

So says LinkedIn, which combed through more than 100 million profiles to decipher the characteristics of today's entrepreneurs.

LinkedIn defines entrepreneurs as people with company profiles on the social networking site who founded or cofounded their companies after 2000 and who have between two and 200 employees. It excluded small law, consulting and real-estate firms, as well as limited liability companies, generating a pool of more than 13,000 entrepreneurs.

Tech entrepreneurs on LinkedIn likely attended Stanford, Harvard University, MIT or the University of California at Berkeley. Entrepreneurship is the most popular major for this group, followed by computer engineering, computer science and physics.

Forty percent of the entrepreneurs were between 30 and 39 years old when they founded their first startup. Many have also worked at large tech companies, including Yahoo, AOL, Apple, eBay, Google and Microsoft.

—Kristin Burnham

...**49%** Parents whose kids watch more TV in summer. Harris Interactive ...**40%** Shoppers who'd spend more online if security were assured. McAfee ...**69%** Those who say disaster responders should monitor social media. American Red Cross

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Forget About the Web

If you're not putting money into developing your company's mobile presence, you're at a competitive disadvantage **BY ADAM HARTUNG**

About 15 years ago, every company realized it needed an Internet presence. The emerging World Wide Web was good for far more than email. Companies that developed websites allowing customers to perform transactions, download information and ask questions were winning more sales, increasing customer satisfaction and lowering business costs. Today, every company has a team responsible for harnessing the power of the Web in a secure way.

But a lot of business isn't done on the PC-centric Internet any longer. Business has gone mobile, and a lot of traditional Web investment isn't paying off the way it used to. Today's market leaders are now leveraging the capability of increasingly powerful mobile devices, whether through apps or the mobile Web.

Consider referrals. They're the most powerful form of marketing, because an existing customer is telling a potential customer to do business with your company. With sales of smartphones and tablets skyrocketing, the odds are greater than ever that a prospect referred to your site will be using a mobile device to access it.

And chances are that your company's appearance on that smartphone or tablet isn't elegant or rich with text and pictures like its website homepage. Prospects probably can't quickly use their mobile devices to learn salient information about your company, call a salesperson or place an order. Your mobile presence probably doesn't make your business compelling.

Yet Gartner says that smartphone sales are doubling annually. Smartphones' share of the device market grows every quarter, now making up more than 25 percent of device sales.

Meanwhile, a recent Business Insider survey discovered that more than half of the things we used to do on a PC—responding to email, chatting, Web surfing, checking our

calendars and so on—we now do on a phone or tablet.

It's time to rethink IT spending and development dramatically. Compare your Web development budget with your mobile development budget. It's time to put the money where the business is.

Better Get Going

Some website technologies, such as Flash, which is used for animated graphics and video, aren't supported on all mobile devices. And large graphics or images with embedded text don't always render well on small screens, if they display at all. It's time to redesign your website to conform to the needs of mobile customers to make sure they have a good experience.

This is just the first step, however. You also need a budget for researching, developing and testing mobile applications. With more than half a million mobile apps, there's a lot of capability you can use if you know about it, and if you also know how to test it, integrate it and make it secure. Not only will you need developers to make external apps function for your needs, you'll most likely want to write your own apps that help customers enjoy doing business with you. It's as unrealistic to think today that you won't develop mobile apps as it was to think in

It's as unrealistic to think today that you won't develop mobile apps as it was to think in 1995 that you wouldn't develop websites.

1995 that you wouldn't develop websites.

The trend toward mobility won't be reversed; mobile platforms will only become more common and more capable. It's time to act. To the early, aggressive adopter go the spoils.

Adam Hartung is a consultant specializing in innovation and the author of the book *Create Marketplace Disruption*. Currently managing partner of Spark Partners, he is a former senior partner with Computer Sciences Corp. and a former executive at DuPont and PepsiCo. Contact him at AdamHartung.com.

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Yammer On

Why Nationwide dropped Lotus Connections in favor of an up-and-coming social networking tool **BY KIM S. NASH**

When Nationwide Mutual Insurance wanted to improve productivity and employee engagement, it thought social networking would do the trick. As it discovered, success requires a lot more than just turning on software for chat and personal profiles. Finding the right tool that also complies with both employee expectations and data governance policies isn't always easy.

First, the \$20.3 billion financial services firm bought Lotus Connections. It was enthusiastic about the software's integration with Notes mail, Quickr document management and Sametime messaging. IBM's integration "was ahead of most other companies' in terms of vision," says Mark Gaetano, CIO for enterprise applications at Nationwide. "But there are complexities that financial services companies face." And sometimes a social networking tool does too much.

Lotus Connections integrates with document management, making documents search- ▶▶



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able by end users in a way that could violate policies for protecting sensitive data at financial firms, Gaetano says. That automatically limited the potential user pool for the tool, undermining the purpose of social networking software: connecting as many people as possible.

Plus, he says, Lotus Connections wasn't easy to learn, resulting in slow uptake by employees. "We struggled to get people to adopt those tools."

Nationwide then tried Yammer's corporate social networking package, which includes chat, status updates, personal profiles and other features familiar to users of Facebook. Yammer offers more integration points to traditional enterprise applications than does Lotus Connections, and the simple-to-use tool took off quickly among insurance agents and corporate employees, says Chris Plescia, leader of marketing and collaboration technologies at Nationwide.

Companies eager to improve productivity by connecting employees to each other and to corporate information sometimes come on too strong, says Diane Piktialis, a program leader at research firm The Conference Board. Forced sociability rarely works.

Don't expect to immediately see thousands of people catapulting to unseen productivity levels while they get to know each other's professional skills and interests on internal social networks. "You cannot mandate the use of these tools. It goes against the concept," Piktialis says.

Instead, IT and business leaders should train staff well. Don't assume that all employees know how to use social media or can pick it up with no training, Piktialis says, especially workers beyond their twenties, for whom social networking may be new. Send trainers who are similar in age and work style to teach them how to use the tools, she advises.

Involvement by a high-profile manager can also help. Not only is enthusiasm infectious, but so is demonstrating how people benefit from being in on new conversations and streams of information, she says.

Nationwide President Mark Pizzi was one of Yammer's first users. He quickly got thousands of followers—about 7,600—from around the country, Gaetano says. And soon, agents started to ask associates and each other questions to quickly find answers for customers.

About 15,000 people now use Yammer at Nationwide. Having so many employees able to talk to one another easily and contribute to conversations knowledgeably "drives an environment of continuous learning and sharing," Plescia says. "There's a sense of belonging to something greater."

Senior Editor Kim S. Nash can be reached at knash@cio.com. Follow her on Twitter: twitter.com/knash99.

Things You Need to Know

APPLE LION

1 INTEGRATION COULD POSE CHALLENGES. Possibly the biggest issue with Lion has been how it gets along with existing applications—especially Adobe's—because it doesn't support Flash. Both sides say they are working on this, but for now this limitation restricts the use of Adobe applications. Bryson Payne, CIO of North Georgia College and State University, says, "If these [Adobe] issues aren't 100 percent resolved, we'll halt the rollout of Lion completely." Tom Catalini, VP of IT at William Gallagher Associates, also noted that the download and upgrade process was anything but quick: "It was confusing at points because the install process did not report a lot of progress."

2 IT HAS AN IPAD FEEL. Lion has an iPad-like feel that makes personal computing easier and more intuitive without trying to re-create the tablet experience. As Tim Bjarin, president of consultancy Creative Strategies, explains it, gestures on the trackpad create the feeling of a touch screen. But he doesn't believe users want to do everything the iPad way. "If I'm using the Mac, I'm producing content; if I'm using my iPad, I'm consuming it," he says. "If they were going to carry over iOS to Macs, they would have created Macs with touch screens." Another new feature that channels iPads is Launchpad, which allows you to clear all applications in one swipe and thumb through multiple desktops.

3 NEW FEATURES PROTECT WORK. The new auto-save feature saves all the changes you make to your work—either when you pause, or every five minutes—not in files, but by versions. And a new feature called "resume" brings crashed applications back to life exactly as you left them. Meanwhile, iCloud, which is scheduled to launch this fall and is free for the basic service, will allow you to back up your work in the cloud so it can be accessed from an iPhone, iPad or home device, making it easier to switch between a computer and mobile devices or to work at home.

4 IT'S AVAILABLE IN THE APP STORE. Lion is downloaded through the App Store and can be transferred to as many licensed computers as you'd like via a single corporate redemption code. Bjarin says Apple users are used to downloading software this way and competitors need to catch up. "Microsoft and cronies have to figure out a way to do this," he says. Payne agrees it's convenient. "People are used to buying apps the iPad way."

5 IT'S EASY AND CHEAP. The price is low enough to tempt a closer look. It's cheaper than Windows 7 (businesses can purchase 20 licenses for \$29.99 each). Bjarin expects quick adoption because "cost of entry is so nominal and Apple has showed everyone that the learning curve is small."

—Lauren Brousell



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Safe Storage for Stormy Weather

After a hurricane knocked Situs Companies' central office offline, the business turned to the cloud for data backup **BY MEGAN SANTOSUS**

When Bill McCown joined The Situs Companies as director of IT, the Houston-based real-estate consultancy was anticipating growth, and the company figured its tape-based backup systems would need to be upgraded. Then in September 2008, Hurricane Ike slammed into Texas. "Our data center stayed up, but our office didn't have power for a week," recalls McCown.

"There was no way to recall our backup tapes, and no way for us to get at any of that information, or get it out to another location," he says.

So Situs made the move to cloud-based storage using EVault backup technology and services from i365, a subsidiary of Seagate Technology. While Situs itself is not subject to financial-industry regulations, its clients—financial institutions, investment houses, mutual funds and the like—are, which makes an all-cloud strategy impractical.

"As soon as we introduced a third

party with access to some of our data, we had to worry about how they were doing their security, and whether it would become a situation where it was going to keep us from being able to do business efficiently," McCown explains.

As a result, Situs opted to keep the majority of its production data in-house and use an offsite, cloud-based data system strictly for backup and recovery purposes. Non-production data is now sent to the cloud via a VPN. To mitigate security concerns, Situs uses internal encryption on all data during backup, and that data remains encrypted offsite.

"This satisfies our clients because it does not expose them to regulatory and security issues," he says.

One of the benefits Situs has gained is a significant reduction in the time it takes to run a full backup. "We can actually get a full backup done in a night now, where it used to take a

weekend," McCown says.

For the most part, Situs has eliminated tape, and recovery times have improved significantly, with most data now recovered within minutes. Previously it may have taken one or two days to get a tape back for recovery or cost \$500 to get an emergency tape pulled from offsite.

As for costs, Situs is saving \$2,200 per month by eliminating tape storage and pickup fees. In addition, the company has been able to avoid hiring a full-time person to handle backups.

The best advantage, says McCown, is that Situs was able to convert all its capital outlays for backup into a single recurring operational expense. "And we got the benefit of not having to acquire a secondary data center for our [disaster recovery] purposes and have someone manage that for us."

Megan Santosus is a freelance writer based in Massachusetts.

Salesforce.com Bets Big on HTML5 Adoption

Salesforce.com is putting HTML5 at the forefront of its mobile strategy with an upcoming product, Touch.Salesforce.com, that will automatically render its applications on touch-enabled devices like Apple's iPad, the company announced during its annual Dreamforce conference in San Francisco.

"They can access all the data, and all the customizations they've done in Salesforce.com come through," said Al Falcione, vice president of product marketing. The applications will provide both read and write access for customers, according to Salesforce.com. Its own core applications and any custom applications built natively on the Force.com platform will work with the new service.

Salesforce.com still plans to develop dedicated native applications for mobile OSes, as it has in the past, but it believes that HTML5's cross-platform adaptability makes sense for its core functions. Customers make frequent tweaks to the software and don't want to have to constantly download new versions, Falcione said.

The company considers native mobile development better for "single-purpose, quick-access" applications, he added.

Salesforce.com's plans also speak to the red-hot popularity of touch-enabled devices, notes analyst Ray Wang, CEO of Constellation Research. "The shift is happening," he says. "Tablets will outstrip PCs as the devices of choice in business. Moving to touch delivers what users will want."

The company is indeed betting big on HTML5. "It's the future of our user experience," Salesforce.com co-founder Parker Harris said during his keynote address at the event.

Salesforce.com is also now offering a social enterprise license agreement that includes enterprise-wide access to Salesforce Sales Cloud, Salesforce Service Cloud, Salesforce Chatter, Salesforce Radian6, Force.com, Heroku and Database.com, according to a statement. Pricing will depend on the client company.

—Chris Kanaracus

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Your users want the freedom to **bring their own technology**. Here's what you should know before you make a move.

BY KIM S. NASH

BYOT, or bring your own technology, is more than code for “my CEO bought an iPad.” BYOT refers to a strategy for letting employees choose and purchase the devices they want to use to do their jobs—everything from PCs and laptops to smartphones and tablets. The machines belong to the employees, who take them along with them if they leave the company.

CIOs who enact BYOT policies are plowing new ground in the consumerization of IT. They seek to cut costs, perhaps—though whether the policy creates hard savings is debatable—and change the way IT and non-IT staff interact. They also expect to improve the productivity of both the IT staff—newly freed from some support tasks—and colleagues who should require less technical training if they use the same machines at home and at work.

Plus, BYOT can boost morale by acknowledging the growing demand from employees to use the technology they like over what IT wants to support, says Leslie Jones, CIO of Motorola Solutions, which since 2008 has reimbursed employees for one personal smartphone and allowed them to use the devices at work. BYOT is a “great acknowledgement of reality,” she says.

Some CIOs, however, say BYOT is a nonstarter: an empty idea that saves no money but brings potentially expensive security and control problems to corporate IT. Companies that offer full-fledged BYOT programs are still in the minority. In an exclusive survey of 476 IT leaders, we found that 69 percent don't allow employees to buy their own equipment for work while just 24 percent do. Yet of the 131 companies that

allow BYOT, most only suggest which products employees should use, leaving the decision up to the individuals. Just 22 percent require employees to choose devices from a specific list. Another 38 percent let employees pick any devices they want.

Those intrepid CIOs face complex decisions about technology and policy, as well as challenges measuring the true value of BYOT. No one wants to create a BYOT program larded with rules and overhead; it's supposed to simplify work life, after all. Plus, employees are pushing for freedom of choice as consumer devices outpace corporate ones in features and usability. Your mobile workers are tired of carrying around different machines for work and personal use. Whirlpool, for example, doesn't want employees to feel they are taking a step down the technology ladder when they come to work, compared to the technology they use at home, says Daren Fairfield, a director in global information systems at the \$18.4 billion appliance maker.

BYOT, ideally, helps merge an employee's home and work life in a way that corporate IT can manage. But Mike Cunningham, CTO of Kraft Foods, says careful planning and methodical testing are necessary to draw conclusions about what needs to be controlled and what can be set free.

PHOTO BY BOB STEFKO



Doug Caddell, CIO of law firm Foley and Lardner, cautions against letting security concerns deter you from pursuing BYOT policies. "Security is not insurmountable," he says.

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UCaaS Bridges the Communications Gap

Multinationals say service-based UC will help enhance productivity, communications and connectedness.

For multinational companies, simple communications isn't enough. "The globalization of the economy requires enterprises to develop a new approach for employees to work with co-workers, partners and customers," says Mitsuru Takayama, senior director for the Ubiquitous Communication Department, Business Network Service Division of NTT Communications Corporation. "Their competitive advantage depends on the ability to seamlessly collaborate to make decisions, resolve problems, control costs and accelerate time-to-market—regardless of the distance between participants."

This places new demands on old communications solutions—with unified communications (UC) emerging as a frontrunner in the quest for increased connectedness. The technology allows people to more quickly and easily locate, connect and collaborate with others from any location, on any device, while integrating various communications components.

A recent poll of business and IT leaders across Asia Pacific, Europe and the U.S. confirms this revelation, reporting that only 13 percent of respondents have no current or future plans to use the technology. The remaining 87 percent expect more than just increased communications from their UC implementations. They expect UC will help enhance productivity, collaboration, and connectedness—all critical requirements of the global economy.

A New Service Level for UC

While business and IT leaders clamor for the technology, they appear to favor a service delivery model. Unified communications as a service (UCaaS) allows companies to purchase customized UC services on a hosted, pay-as-you-go basis, bundling multiple communications modalities. Fifty-two percent of respondents have deployed or tested UCaaS, or are planning to in the near future. Another 24 percent say they will consider UCaaS going forward, although they have no formal plans in place.

"For IT organizations, the service model is a great way to

deliver UC in an effective, flexible and coordinated manner, leveraging the service provider's technical expertise in implementing and managing complex communications environments, so internal IT resources stay focused on supporting business development," says Takayama. But it's good for the business, too. "UCaaS facilitates interaction between geographically dispersed employees, partners and customers to support faster and more elaborate communication with the most sophisticated, state-of-the-art capabilities—which, in turn, drives business innovation and competitive advantage."

To achieve that advantage, it's important to do it right. An SLA with carrier, for example, can ensure end-to-end management and speedy problem resolution required for successful programs.

The Service Advantage

What's the appeal of UCaaS? First, it addresses the challenges that accompany on-premise models—such as integration, staffing, and complexity—which nearly half the respondents claim continue to hinder internally-hosted delivery. But the service model also introduces its own advantages. The greatest promise of UCaaS is vastly improved availability: Sixty-four percent of respondents require 24x7 access, 56 percent want faster access to new functions, 50 percent need increased scalability. What's more, 73 percent of respondents expect to use more features if they deploy UC as a service.

For these business and IT leaders, it's a fairly simple equation. These compelling benefits—everything from ease of management and faster deployment to improved application performance and 24/7 access to those applications—add up quickly. And with the inclusion of the obvious cost advantages, everything points directly to UCaaS.

For the full-length version of this white paper, "Taking Unified Communications to a New Service Level," please visit www.ntt.com/worldwide/resource-center/wp/.

Some rules that already govern the use of corporate technology might translate directly to BYOT programs, such as prohibiting employees from using a device used for work to view notoriously insecure sites featuring gambling or pornography. But BYOT requires other nuanced considerations that go beyond the common sense called for in protecting a work-provided device that is occasionally used outside the office.

"You're doing [BYOT] because you want to deliver choice and flexibility. Not to save you money."

—Leslie Jones, CIO, Motorola Solutions

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1

Don't balk for security's sake.

Squashing the BYOT idea because of security concerns is a knee-jerk reaction, says Doug Caddell, CIO at Foley and Lardner, a law firm where 400 iPads are in use as part of a BYOT program that started in February. (For more on Foley and Lardner's BYOT program, see "Yes Man" on Page 32.) "You hear a lot about why you can't do something rather than why you can do something," he says. Caddell has users protect their iPads with passwords, which he sets to time out after so many idle minutes. Generally, attorneys working with sensitive material are required to store documents on company servers, not personal devices, through Citrix or VMware. "Security is not insurmountable," he says.

As personal devices get smarter and better able to store and do more with corporate data, they also become a bigger target for hackers, says Joe Oleksak, a security assurance and consulting manager at consultancy Plante and Moran. "Smartphones and tablets haven't had antivirus and anti-malware programs installed to protect them. You're seeing a big rush in malware writing to take advantage of that."

The corporate network, however, can become a key means of enforcing security policy. For example, the network can detect which devices are running what antivirus and anti-malware tools and deny access to those that don't comply with the company's standards, Oleksak says.

2

Webify, virtualize and mobilize first.

Security concerns do mean that employees using their own laptops, tablets or smartphones for business should not store data locally. In-house counsel would hyperventilate should intellectual property be exposed when someone's kid grabs mom's laptop to Skype his pals about homework. This sort of threat may be equally possible with a work device that is allowed outside the office. But if a laptop is now viewed as personal property under a BYOT program, users may be tempted to forget company policies designed for security. Companies should be sure to re-emphasize that certain rules still apply, such as those pertaining to sharing a device.

The most secure solution is to permit access to data only through virtual, mobile or Web-based applications on central servers, on a secure network. Users should then also agree not to store data on their devices. The laptop—or tablet or smartphone or netbook—acts merely as an interface allowing a user to work with corporate information.

That architecture has to be in place before a CIO can consider implementing BYOT, says Whirlpool's Fairfield. Whirlpool is testing BYOT with 200 employees and aims to get at least half the company's users working in a virtual environment, regardless of whether they use their own device or one issued by the company, Fairfield says. Many companies are virtualizing applications anyway, to save on server and device costs, among other reasons. Virtualization makes all the more sense in a BYOT situation, Fairfield says. There is no sense in allowing BYOT without first having set up enterprise applications so they can be easily accessed by mobile devices, he adds. That means creating either Web versions—or at least Web interfaces to back-end systems—or purely mobile applications.

3

Get infrastructure in top shape.

Whirlpool's pilot quickly showed Fairfield that data storage capacity needed to be upgraded to handle more data now that information that had been stored locally was being moved to central servers, he says. Connectivity interruptions have also occasionally cropped up. That's a critical concern: If people aren't connected to central applications and data, they can't work. To cope, Whirlpool has asked local telecommunications carriers to prioritize their tower upgrades to improve access. "They're cooperating, but can't go as fast as we'd like them to," he says. "Still, they are doing what they can to make heavy-traffic areas better." As the IT infrastructure is tweaked, Fairfield plans to roll out BYOT to the rest of the company in waves over the next 18 months.

At Kraft, on the other hand, CTO Cunningham has noticed an improvement in network throughput. Because people in the program log in to the network and use their devices to access virtual applications and data stored centrally, there is far less data flowing out from servers than there is in a client-server setup, he says, making the network faster.

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4

Decide who does what.

From the start, IT leaders must convey to BYOT participants that they, not IT, are responsible for learning about and caring for their smartphone, tablet or laptop, says Jared Mittleman, CTO at AG Semiconductor, a privately held company that resells machines for building computer chips. And some devices may be harder for IT to hook up to a corporate network than others.

For example, BlackBerrys are among the most commonly used devices at AG and are therefore some of the easiest to support. But Mittleman's boss purchased an iPhone last year. Mittleman OK'd the purchase—wouldn't you?—but explained that accessing corporate applications may be bumpy because IT was inexperienced with iOS. He also stipulated that his boss had to help work through any technical issues. "I'm a BlackBerry guy. I do my best. But you, as the BYOT owner, have to be willing to contribute. That's the deal."

At Foley and Lardner, employees are advised to purchase an extended warranty for their devices. The company also keeps loaners on hand for when personal machines are being repaired. "Attorneys can't be without a computer," Caddell says.

5

Say 'no' sometimes.

While 800 employees participate in the BYOT program at the \$49.2 billion Kraft Foods, not everyone can partake. At factories, for example, workers have to use specific computers to control the making of cereal or macaroni, Cunningham says. "We're not going to have someone showing up at plant and plugging [a personal device] into our production line."

Legal and human resources staff who work with sensitive, confidential information will likely need to use fully loaded, company-issued machines to protect and store that data. Working with a thin client, such as a tablet or netbook, over a network may not be feasible. Generally, it's your remote and mobile staff—the ones more likely to be using mobile devices and laptops now, such as field managers, salespeople and marketing staff—that are the first and best candidates for BYOT programs.

6

Indoctrinate—politely, of course.

Careful training is a must, either one-on-one or in small groups, before anyone connects a personal device to the corporate network. Users eager to fire up their snazzy new machines must first understand the Dos and Don'ts of the BYOT policy, Mittleman says.

Automated training makes it too easy to breeze through and miss critical security considerations. IT staff should look people in the eyes and know that they get it, he says. Oleksak, the security consultant, agrees a passive approach to training puts your company at risk. "Your users are your weakest link," he says. "They have physical control of the device and logical access to corporate data. They are the front lines against attack."

Whirlpool is finalizing its policy as it continues its pilot. The document will stipulate that users keep data on servers and not stored on their devices, Fairfield says. However, in cases where a



Michael Cunningham, CTO of Kraft Foods, says its BYOT policy has made staff more productive and improved work-life balance.

user may leave data on his smartphone, the policy will advise that it be stored in folders separate from personal information. That way, if the phone is lost or stolen or the employee leaves Whirlpool, it can be cleanly wiped of corporate data remotely, leaving personal data in place. Motorola's policy includes similar provisions.

Another good practice: State that although the device is personal, the employee agrees not to visit sites known for spreading malware, such as pornography and gambling sites, Oleksak says. And iPhone and iPad users must agree not to jail break their devices to install software that hasn't been vetted by Apple, he advises. "That's how intruders gain access." Likewise, users of Android and other devices should understand that Flash is a common way for hackers to deliver malware, so avoid Flash-heavy sites, he suggests.

After those sessions, though, CIOs expect to do less training than they did historically when introducing new technology. Fairfield expects a more rapid adoption thanks to people working with a smaller number of interfaces. The company now supports 48,000 different desktop computing configurations. The huge variety is caused by employees frequently downloading software from the Internet. "To get that number down to a standard set of virtual applications administered centrally will be a huge performance and productivity improvement," Fairfield says.

7

Decide who pays and how much.

Whirlpool is contemplating offering a reimbursement of a few hundred dollars for a personally purchased device; the company hasn't finalized the total amount per employee yet. Also being debated is whether it would be a one-time payment or on a refresh cycle of every few years, similar to a traditional PC upgrade cycle. One of Fairfield's concerns is fairness. "Executives can afford it, but for people in our plants who need laptops, to spend a few thousand dollars is a major purchase for them." Fairfield and his team are also considering offering company-issued netbooks that cost just a few hundred dollars but would remain corporate assets.

Foley and Lardner offers reimbursement of up to \$3,800 every three years, rather than a stipend, which is considered taxable income for the individual. "All of a sudden you see something on your W-2 and you're not a happy camper," Caddell says. CIOs should confer with the accounting department about how best to administer the funds for BYOT programs, he says.

There is no set allowance at AG Semiconductor. Mittleman or a system administrator reviews each request, checking that RAM, power and pricing are appropriate for the employee's work. Many companies don't offer any technology allowance at all, according to our survey. Of the 131 companies that said they have some form of BYOT program, a skimpy 4 percent cover the entire cost of a personal device and 36 percent said they

"Your users are your weakest link. They have physical control of the device and access to corporate data."

-Joe Oleksak, Security Assurance Manager, Plante and Moran

provide some financial help. But 60 percent of those surveyed have employees pick up the whole tab.

Kraft offers employees a stipend every four years, the amount of which Cunningham declines to specify. He does offer this advice: Have IT track who has gotten how much as part of the procedure for setting up a new employee and decommissioning people who leave Kraft. The goal is to "make it part of what you're already doing, as opposed to spawning a whole new set of activities," he says.

8

Know that you may or may not save money...

When Whirlpool's program is fully rolled out in the next 18 months, Fairfield expects to save money on procurement and support. The executive committee likes not being locked into a pricey PC upgrade cycle every three to five years, he adds. But he also expects better employee engagement, which is a metric Whirlpool measures in a companywide annual survey with questions such as, "Do you have the right tools to do your job?" and, "Are you part of a truly mobile workforce?"

Caddell began Foley's BYOT program wanting to reduce costs and cope with IT staff cuts. Three hundred people participate in the program now, mainly attorneys, with about 700 more to join in the next two years as existing laptop leases expire. Even with paying the \$3,800 reimbursements and installing a VPN client, Caddell expects to save 22 percent on procurement and provisioning costs when the program is fully operational in 2013. That includes savings from not buying equipment and from freeing IT staff from preparing, configuring, repairing and maintaining devices, he says.

Yet among our survey takers, there is some question about cost savings. Thirty-one percent claimed savings on hardware and support, while 43 percent report no hard savings at all.

The \$19.3 billion Motorola Solutions hasn't seen a net savings, says CIO Jones. "You're doing it because you want to deliver choice and flexibility. Not to save you money," she says. "It's a wash, financially."

For Jones, the benefits of letting people choose their own smartphones for work are soft—employee satisfaction and productivity, and ease of communication with far-flung staff. "Those ideas have huge value."

However, a pilot project to let Motorola employees choose

their own laptops for home and work was halted after a year, partly because there was limited interest from employees, Jones says. The company says it got better deals buying in bulk than individuals could get on their own. Another factor that clinched the move to end that program: IT could not wipe those machines remotely. "The need to protect intellectual property is a requirement," she says.

9

...but you will change company culture.

More than a year into Kraft's BYOT program, Cunningham says he's seen hardware support costs drop, but it's just as important that the arrangement makes people more productive and improves their work-life balance. Allowing employees to choose the technology they like may also attract new hires, he says. "They think, 'I can work with this company, which has no draconian rules.'"

Mittleman has found that people are more engaged with their colleagues in and out of IT. One by-product of freeing employees to buy and try their own technology is that they may discover productivity tools that the IT department would otherwise overlook. "Everyone's an IT incubator," Mittleman says.

For example, the director of sales recently used a compact mobile router to access an Ethernet network and use it like a wireless network. It's handy in oddly furnished hotel rooms where the desk sits in an inconvenient place. The sales director had to buy a second router after his boss adopted the first. It was a great idea that the IT group wouldn't have had the time to investigate, Mittleman says. "We're constantly working on pushing large initiatives. But if you can find a lot of things that make someone's life 2 or 3 percent better, those add up," he says.

The more cordial give-and-take between IT and non-IT staff at Mittleman's office has resulted in improved software development, he says. Colleagues understand more about what it takes to make IT work well and are more willing to brainstorm ideas and identify functions they want, he says.

BYOT is not just about changing the procurement process. It changes the relationship between IT and the rest of the company, he says, and spreads understanding of how IT works.

YES MAN



Foley and Lardner's CIO gives freedom of choice to workers

Doug Caddell's approach to bring-your-own-technology (BYOT) programs is to come from a place of "yes." In order to allow employees to use their favorite devices, the CIO of law firm Foley and Lardner has allotted each employee a technology reimbursement allowance of \$3,800 every three years, beginning on the date of the first reimbursement payment. But this BYOT program is more than just handing over cash.

Caddell's decision to let employees buy their own devices was fueled by economic frustration and IT staffing cuts. But having users expense their purchases added administrative costs. Instead, he invested in a Web-based application that allowed employees to sign themselves up for the program and manage their accounts. (The BYOT program and its associated application won Foley and Lardner a CIO 100 Award this year.) Once enrolled, employees can submit receipts online for any approved device purchased. The cost is deducted from their technology allowance and reimbursed through their paychecks. The application cost \$12,000 in developer time and now only requires one person to administer.

To give employees as much freedom of choice as possible, Caddell only put a limit on the amount they could spend, not on what devices they could buy. Any laptops, tablets, smartphones or Wi-Fi or broadband services are qualified purchases under the program, while equipment such as printers and monitors are not.

"I don't care [what device they choose], as long as I can provide access to the corporate network," Caddell says. "We need to get out of the equipment business, and as technology changes, we just roll with it."

With a 26 percent decrease in IT headcount since the recession, Caddell also felt he needed to free up employees' time and give them more flexibility to balance work, home and travel. The biggest win for IT was earning back support time. "Pre-deployment prep and then usage costs with repair and maintenance...now we don't do any of that," he says. Users handle their own maintenance and repairs, and Caddell urges them to buy extended warranties. "It's in bold in the agreement," he says.

To mitigate the security risks of new devices, including 400 iPads now on the company's network because of the program, Caddell developed detailed contracts and policies to be signed by each employee. The policy allows the firm to wipe a device if it's lost or stolen and requires Foley's lawyers to store sensitive documents on servers through Citrix or VMware. Caddell is also working to virtualize more applications.

—Lauren Brousell

Supporting a proliferation of devices may increase support costs, he adds, but "it's more than made up for in the willingness of users to work with us." **CIO**

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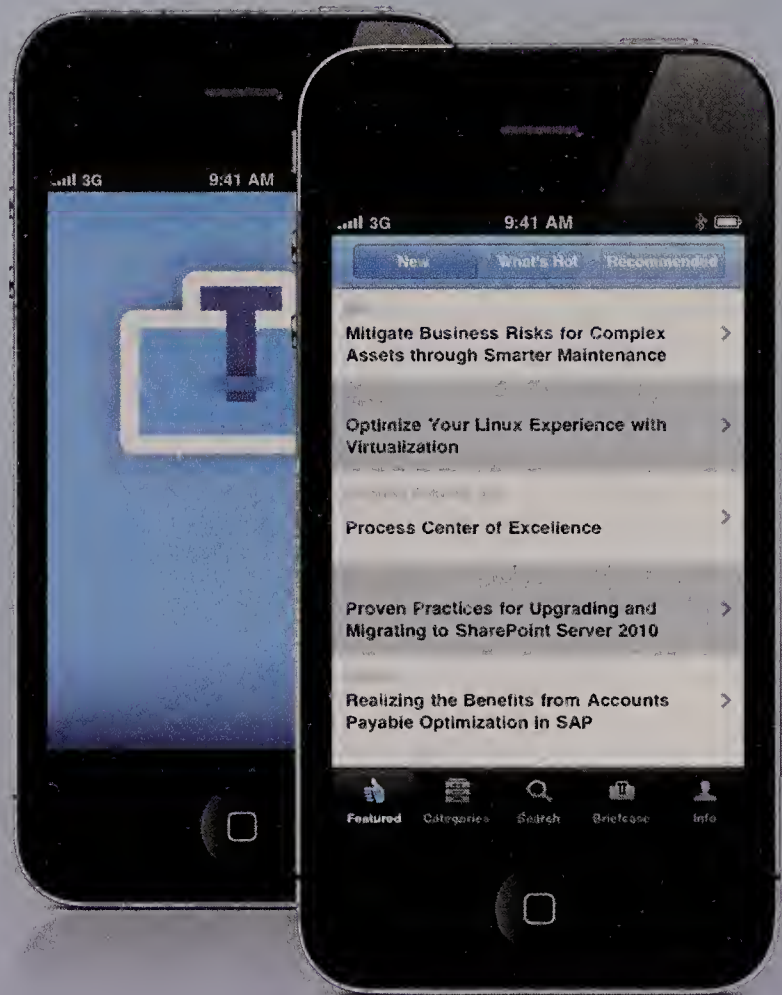
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No More Mystery Meat

School cafeterias may no longer need a helping hand from lunch ladies, thanks to high-tech food-vending machines. At Miami-Dade Public Schools, students can purchase lunch from these vending machines without cash by punching in their student ID numbers and birth dates. They have a choice of several healthy food options, such as wraps and yogurt parfaits, and receive their lunch within 20 seconds. The meals were inspired by Miami chefs and are part of the schools' campaign to fight childhood obesity. Parents and students can log in through the school's online portal to view their accounts and track what was bought. Debbie Karcher, CIO of Miami-Dade Public Schools, says the portal also works as a food-service-management system. "We can monitor cost, inventory and sales," she says. "We like the idea of a cashless prepaid account; it's clean and easy to track." Miami-Dade placed the machines in 45 high schools and 10 middle schools this fall.

—Lauren Brousell



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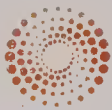


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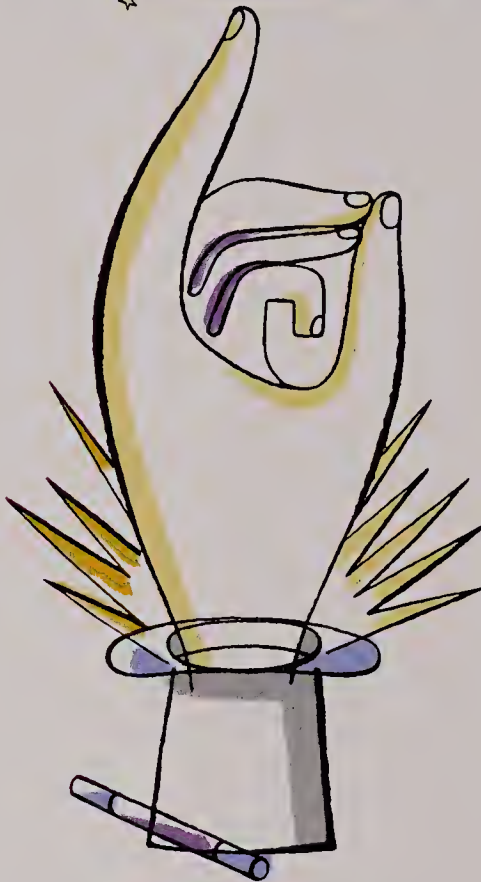
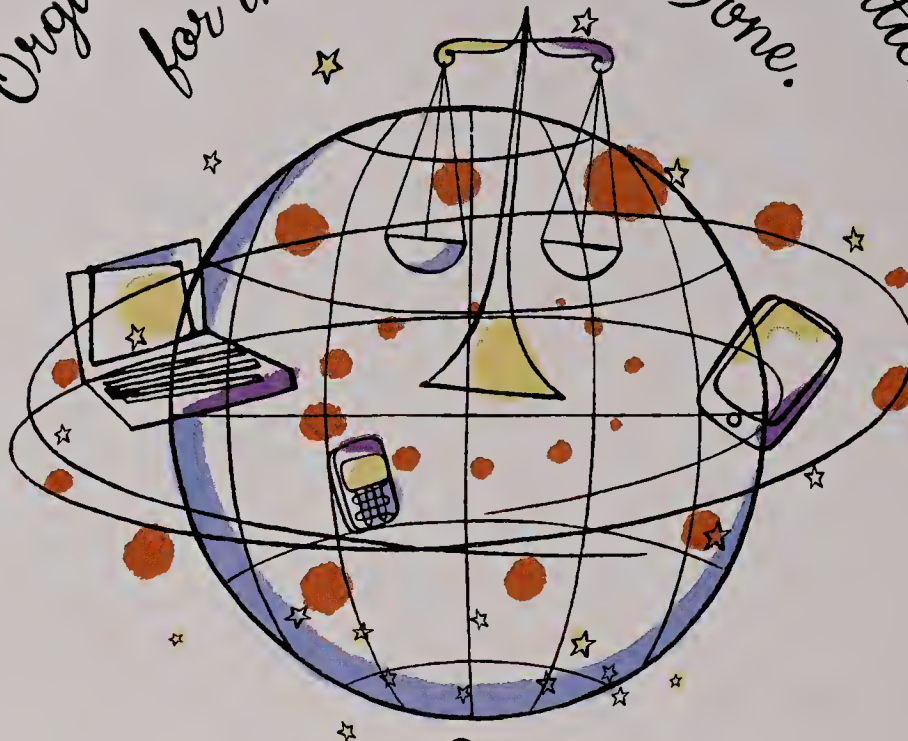
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